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Total THC Test Report

Sample Submitted By:

NCDA&CS Plant Industry Division
216 West Jones Street
Raleigh, NC 27603

Date of Sample Submission: 1/24/2019

Sample ID: SEM-NC0159-03-59

Grower/Applicant Name: Brad V Martin

License Number: 159

Variety: CHERRY MOM

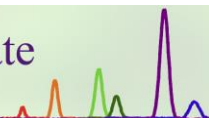
Comments:

Final Report

Total Delta-9 (Δ^9) THC (%): **0.18**

Approved By: Paul R. Adams III

Date: **2/7/2019**



Certificate ID: **50390**
 Client Sample ID: **AS-HempGen**
 Lot Number: **02**
 Matrix: **Flowers/Bud - Dry**

Received: **3/11/19**

Scan QR Code
for authenticity



| | | |
|---|-----------------------------------|--------------------|
| Authorization: Jon Podgorni, Lab Manager | Signature: <i>Jon Podgorni</i> | Date: 3/26/2019 |
|---|-----------------------------------|--------------------|



The data contained within this report was collected in accordance with the requirements of ISO/IEC17025:2005. I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

CN: Cannabinoid Profile & Potency [WI-10-17 & WI-10-17-01]

Analyst: LG

Test Date: 3/25/2019

The client sample was analyzed for plant-based cannabinoids by Liquid Chromatography (LC). The collected data was compared to data collected for certified reference standards at known concentrations.

50390-CN

| ID | Weight % | Conc. | |
|---------|------------|-------------|-----------------------------|
| D9-THC | 0.08 wt % | 0.84 mg/g | |
| THCV | ND | ND | |
| CBD | 0.74 wt % | 7.44 mg/g | |
| CBDV | ND | ND | |
| CBG | ND | ND | |
| CBC | 0.06 wt % | 0.63 mg/g | |
| CBN | ND | ND | |
| THCA | 0.60 wt % | 6.00 mg/g | |
| CBDA | 19.08 wt % | 190.84 mg/g | |
| CBGA | 0.67 wt % | 6.66 mg/g | |
| D8-THC | ND | ND | |
| exo-THC | ND | ND | |
| Total | 21.24 wt% | 212.41 mg/g | 0% Cannabinoids (wt%) 19.1% |
| Max THC | 0.61 wt% | 6.10 mg/g | |
| Max CBD | 17.48 wt% | 174.80 mg/g | |

Ratio of Total CBD to THC 28.7:1

Max THC (and Max CBD) are calculated values for total cannabinoids after heating, assuming complete decarboxylation of the acid to the neutral form. It is calculated based on the weight loss of the acid group during decarboxylation: Max THC = (0.877 x THCA) + THC. This calculation does not include other cannabinoid isomers (eg. D8-THC and exo-THC). ND = None detected above the limits of detection (LLD)



Test report: Flower Sample

| | |
|-----------------|--|
| Client: | Green River Botanicals |
| Client contact: | |
| Strain: | unknown |
| Sample Type: | Flower |
| Batch: | NA |
| Analyst: | AL |
| Authorization: | MK |
| Product ID: | S19-00071 |
| Receipt Date: | 1/2/2019 |
| Test Date: | 01/03/2019 |

Cannabinoid Profile

| Cannabinoid | % |
|--------------------|--------------|
| THC | Not detected |
| CBD | 0.1% |
| CBN | Not detected |
| THCa | 0.7% |
| CBDa | 17.3% |
| Δ-8 THC | Not detected |
| CBGa | 0.8% |
| THCv | Not detected |
| CBDv | Not detected |
| CBC | Not detected |
| Total Cannabinoids | 18.90% |
| Max THC | 0.61% |
| Max CBD | 15.24% |

The top pie chart displays the distribution of cannabinoids: CBDa (17.3%, dark red), THCa (0.7%, light green), and CBGa (0.8%, yellow). The bottom pie chart displays the maximum theoretical amounts: Max THC (0.61%, dark green) and Max CBD (15.24%, orange).

Percentage data represents weight percentage of sample as received by MCR Labs.

THCa is converted to THC by heat. To find the maximum theoretical amount of THC in a sample, we add the amount of THC present in the sample to the amount of THC that can be created from THCa by the formula:

$$\text{Max THC} = \text{THC} + \text{THCa} * 0.877$$

The maximum theoretical amount of CBD in a sample is calculated from CBD and CBDa in a similar fashion.

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Terpene Profile

| Terpene | Test Results |
|---------------------|--------------|
| α-Pinene | Not detected |
| Camphene | 0.03% |
| β-Myrcene | 0.81% |
| β-Pinene | 0.08% |
| δ-3-Carene | Not detected |
| α-Terpinene | Not detected |
| Ocimene | Not detected |
| δ-Limonene | 0.18% |
| p-Cymene | 0.03% |
| β-Ocimene | Not detected |
| Eucalyptol | Not detected |
| γ-Terpinene | Not detected |
| Terpinolene | 0.03% |
| Linalool | 0.08% |
| Isopulegol | Not detected |
| Geraniol | 0.03% |
| β-Caryophyllene | 0.04% |
| α-Humulene | 0.04% |
| Nerolidol 1 | 0.06% |
| Nerolidol 2 | 0.04% |
| Guaiol | 0.02% |
| Caryophyllene Oxide | 0.06% |
| α-Bisabolol | 0.04% |
| Total | 1.57% |

Total Analytes | 20.47%

MCR Labs, LLC 85 Speen Street Framingham, MA 01701
508.872.6666 info@mcrlabs.com www.mcrlabs.com

Analytical Test Report

| | | |
|--|--|--|
| Client: Green River Botanicals | Final Report MCR-S1900071 Rev.01.00 Report Date: 15 JANUARY 2019 | Laboratory: MCR Labs 85 Speen St. Lower Level Framingham, MA 01701 508-872-6666 |
|--|--|--|

| Sample ID # | Sample Name | Batch | Matrix | Date Received | Date Tested | Sample Weight |
|---------------|---------------|-------|--------|----------------|--------------------|---------------|
| MCR-S19-00071 | Flower Sample | N/A | Flower | 2 January 2019 | 03-15 January 2019 | N/A |

The test results presented in this report are accurate, complete, and compliant with the MCR Labs quality control criteria.

Requested Testing:

| Test | Code | Procedure | Analytes Tested |
|------------------------|------|-------------|--|
| Microbiological Screen | MB | MCR-TM-0006 | Bacterial (Total Aerobic, Total Coliform, Bile-Tolerant Gram Negative), Yeast and Mold, Pathogenic (E. coli, Salmonella) |
| Mycotoxin Screen | MY | MCR-TM-0013 | Aflatoxin B1, Aflatoxin B2, Aflatoxin G1, Aflatoxin G2, Ochratoxin A |
| Heavy Metals Screen | HM | MCR-TM-0008 | Arsenic (As), Cadmium (Cd), Lead (Pb), Mercury (Hg) |
| Pesticides Screen | PS | MCR-TM-0009 | Bifenazate, Bifenthrin, Cyfluthrin, Etoxazole, Imazalil, Imidacloprid, Myclobutanil, Spiromesifen, Trifloxystrobin |

Microbiological Screen [MCR-TM-0006]

Analyst: PS/VB

Test Date: 11-14 Jan 19

The sample was analyzed for microbiological contaminants via an automated Most Probable Number (MPN) methodology with cultured enrichments.

| Test ID | Test Analysis | Results | Unit | Limits |
|-------------|--|---------------------------|-------|--------------|
| 19-00071-AC | Total Viable Aerobic Bacteria | $\approx 2.1 \times 10^2$ | CFU/g | 10^5 CFU/g |
| 19-00071-YM | Total Yeast and Mold | $\approx 6.3 \times 10^3$ | CFU/g | 10^4 CFU/g |
| 19-00071-CC | Total Coliforms | <100 | CFU/g | 10^3 CFU/g |
| 19-00071-EB | Total Bile-Tolerant Gram Negative Bacteria | <100 | CFU/g | 10^3 CFU/g |

Note: CFU = colony forming unit. Testing limits established by the Massachusetts Department of Public Health, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 6.

Pathogenic Bacterial Screen [MCR-TM-0006]

Analyst: DO

Test Date: 15 Jan 19

The sample was analyzed for pathogenic bacterial contamination via an automated Enzyme Linked Fluorescent Assay (ELFA).

| Test ID | Test Analysis | Result | Units | Limits |
|---------------|-----------------------|----------|-------|---------------------|
| 19-00071-ECPT | <i>E. coli</i> (O157) | Negative | N/A | Not Detected in 1 g |
| 19-00071-SPT | <i>Salmonella</i> | Negative | N/A | Not Detected in 1 g |

Note: Testing limits established by the Massachusetts Department of Public Health, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 6. NT = Not tested.

Mycotoxin Screen [MCR-TM-0013]

Analyst: WS/SG/JW

Test Date: 04 Jan 19

The sample was analyzed via Liquid Chromatography - Tandem Mass Spectrometry (LC-MS/MS). The collected data was compared to data collected from analytical reference standards at known concentrations.

| Test ID | Test Analysis | Result | LOD (ppb) | Limits (ppb) |
|-------------|------------------|----------|-----------|--------------|
| 19-00071-MY | <i>Mycotoxin</i> | Negative | 20 | 20 |

Note: ND = Not Detected; LOD = Limit of Detection; ppb = part per billion. Testing limits established by the Massachusetts Department of Public Health, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 6.

Heavy Metals Screen [MCR-TM-0008]

Analyst: WS

Test Date: 04 Jan 19

The sample was analyzed via Inductively Coupled Plasma Mass Spectrometry. The collected data was compared to data collected from certified analytical reference standards at known concentrations.

| Test ID | Test Analysis | Result, ppb | LOD ppb | LOQ ppb | Limits ppb |
|-------------|---------------|-------------|---------|---------|------------|
| 19-00071-HM | Arsenic | ND | 28.5 | 86.2 | 200 |
| 19-00071-HM | Cadmium | BQL | 24.7 | 74.8 | 200 |
| 19-00071-HM | Mercury | ND | 18.3 | 55.5 | 100 |
| 19-00071-HM | Lead | ND | 15.4 | 46.8 | 500 |

Note: ND = Not Detected; LOD = Limit of Detection; LOQ = Limit of Quantitation; BQL = Below Quantitation Limit; ppb = part per billion. Testing limits established by the Massachusetts Department of Public Health, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 4.

Pesticides Screen [MCR-TM-0009]

Analyst: WS/SG

Test Date: 04 Jan 19

The sample was analyzed via Liquid Chromatography - Tandem Mass Spectrometry (LC-MS/MS). The collected data was compared to data collected from analytical reference standards at known concentrations.

| Test Analysis | Result, ppb | LOD ppb | LOQ ppb | Limits ppb |
|-----------------|-------------|---------|---------|------------|
| Bifenazate | ND | 250 | 825 | 10 |
| Bifenthrin | ND | 40 | 132 | 10 |
| Cyfluthrin | ND | 3000 | 9900 | 10 |
| Etoxazole | ND | 60 | 198 | 10 |
| Imazalil | ND | 40 | 132 | 10 |
| Imidacloprid | ND | 10 | 33 | 10 |
| Myclobutanil | ND | 10 | 33 | 10 |
| Spiromesifen | ND | 100 | 330 | 10 |
| Trifloxystrobin | ND | 10 | 33 | 10 |

Note: ND = Not Detected; LOD = Limit of Detection; LOQ = Limit of Quantitation; ppb = part per billion; N/A = not available. Testing limits established by the Massachusetts Department of Public Health, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 5.

END OF REPORT